

# Annual Drinking Water Quality Report 2015

*This report contains very important information about your drinking water.  
Este informe contiene información muy importante sobre su agua de beber.*

We are pleased to present to you The Pittsburgh Water & Sewer Authority's (PWSA) 2015 Annual Drinking Water Quality Report containing information about the quality water and service we deliver to you every day.

Our constant goal is to provide you with a high quality, dependable, and ample supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. We are committed to ensuring the quality of your water. If you have any questions about the report, please contact: **Gina Cyprych**, PWSA Acting Chief Water Quality Officer at 412.782.7553.

We want customers to be informed about their water and be provided access to this report from many different sources. The Water Quality Report and additional information are available on PWSA's web site: [www.pgh2o.com](http://www.pgh2o.com). Additional copies may be obtained by calling PWSA Customer Service at 412.255.2423.

PWSA provides water and sewer service to more than 300,000 consumers throughout the City of Pittsburgh and surrounding areas. PWSA is the largest combined water and sewer authority in Pennsylvania producing an average of 70 million gallons of water daily. In addition, PWSA also provides bulk water sales to Reserve Township, Fox Chapel Borough, and Aspinwall Borough, along with being interconnected to several other regional water systems for emergency purposes. The PWSA drinking water system contains 965 miles of water lines, five reservoirs and 11 tanks with a storage capacity of 455 million gallons of water. The PWSA sewer system contains 1,200 miles of sewer lines and four booster pumping stations. PWSA provides water that meets or exceeds regulations at the lowest possible cost.



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PA Public Water Supply  
ID No. 5020038

## Special Information for Immuno-Compromised Individuals

Some people may be more vulnerable to contaminants in drinking water than others.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections.

These persons should seek advice about drinking water from their health care providers. Environmental Protection Agency (EPA) and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1.800.426.4791.

## Where Does Your Water Come from and How Is It Treated?

PWSA draws its water from the Allegheny River. No ground or well water is used. Approximately 70 million gallons of water are treated each day at our drinking water treatment plant. The plant is capable of producing over 100 million gallons of water per day. The treatment process takes three full days and consists of three separate stages:

### STAGE 1: Clarification

River water passes through a process called “clarification,” in which silts and clays are removed. This stage involves the addition of treatment chemicals (coagulants) which form clumped particles called “floc,” which are then physically removed by gravity sedimentation. During this phase the water is also treated with powdered activated carbon to improve the taste.

### STAGE 2: Filtration

The clarified water next passes slowly through coal, sand, and gravel filters in order to remove the fine particles and microorganisms.

### STAGE 3: Disinfection

The filtered water is treated with chlorine to ensure removal of any harmful microorganisms. During this process, several additional chemicals are added to complete treatment. These include sodium carbonate to adjust the pH of the water and fluoride to prevent cavities.



## Secondary Treatment of Reservoir Water

In addition to our primary water treatment plant located near Aspinwall, PWSA operates a secondary treatment plant known as the Microfiltration Plant in Highland Park.

All of the water stored in the open-air Highland Reservoir #1 is originally treated in our primary plant. Then, before the Highland Reservoir #1 water is distributed to the public, it is retreated in our secondary plant. This membrane filtration plant utilizes state-of-the-art microfiltration and chlorination to remove any impurities that may have entered the water during storage in the reservoir.

## Source Water Protection

PWSA has a source water protection plan approved by the Pennsylvania Department of Environmental Protection (PADEP). This report identifies the most likely sources of pollution affecting the river.

These include accidental release of contaminants from industrial processes; cumulative impact of discharge from power plants; cumulative release of petroleum products from pipeline ruptures; stormwater runoff from lands adjacent to the river and Combined Sewer Overflows (CSO's). A summary of the Source Water Assessment is available on the PADEP web site at [www.dep.state.pa.us](http://www.dep.state.pa.us).

PWSA realizes the importance of protecting our source water and is actively involved with organizations that aid the Authority in accomplishing this goal. PWSA is a member of River Alert Information Network (RAIN), which is an early warning spill detection monitoring network along the Allegheny, Monongahela, and their tributaries. For more information please visit their site at [www.rainmatters.org](http://www.rainmatters.org). PWSA is also a member of the Ohio River Valley Water Sanitation Commission (ORSANCO) and is enrolled in their ODS (organic detection) program. For more information please visit their site at [www.orsanco.org](http://www.orsanco.org).



## Stormwater

Stormwater pollution DOES affect water quality. PWSA draws water from the Allegheny River. Anything that enters a storm sewer is ultimately released, untreated, into the rivers and streams. In addition to the Allegheny River being used as the source of our drinking water, it is also used for swimming, boating, and fishing.

The PWSA system is made up of sanitary, dedicated stormwater, and combined sewers. All new development is required to have separate storm sewers, or Municipal Separate Storm Sewer Systems, known as MS4's. As an older city, only about 25 percent of the system has separate storm sewers.

### Residents can help prevent stormwater pollution by doing the following:

#### Dispose of trash properly.

Don't litter. You can help reduce cost and keep our rivers clean by properly disposing of waste.

#### Consider the location where you wash your car.

If you're washing your car in the driveway, all the soap is running into the street and may enter the storm sewers and eventually end up in the river.

#### Properly dispose of pet waste.

If pet waste is not properly disposed of during rain events, the bacteria may enter the storm sewers and eventually end up in the river.

#### Use fertilizer sparingly.

During rain events, fertilizer runs down the street and may enter the storm sewers and eventually end up in the river. Don't fertilize before a rain storm.

#### Stop oil leaks immediately.

Leaking oil runs down the street and may enter the storm sewers and eventually end up in the river. Check for oil leaks regularly and dispose of oil properly.

## Who Monitors and Ensures the Quality of Water?

PWSA monitors your drinking water (on a continuous basis — 365 days a year) in accordance with Federal and State regulations.

Table #1 shows our monitoring results at the Aspinwall Water Treatment Plant for the period of January 1, 2015 to December 31, 2015. Table #2 shows our monitoring results at the Highland Park Membrane Filtration Plant during the same period. While we conducted more than 100,000 analyses for approximately 100 different chemical and microbial constituents last year, we only found detectable levels of the contaminants listed in the water quality tables. It should be noted that none of the test results exceeded federal or state maximum contaminant levels (MCLs).

## Should You Be Concerned about Lead?

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead found in drinking water is primarily from materials and components associated with private service lines and plumbing inside private property.

On April 25, 2016, the PADEP issued an Administrative Order to PWSA requiring testing relating to lead and copper, and public notice concerning it. During parts or all of 2013-2016, PWSA switched corrosion control agents from soda ash to caustic soda, both recognized as effective in corrosion control. PWSA failed to follow the proper PADEP notification procedure in implementing this change. PWSA has already addressed some of PADEP's requirements, while others are in the planning stages. More information on the PADEP Administrative Order can be found at [www.pgh2o.com/lead-facts](http://www.pgh2o.com/lead-facts).

PWSA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components in your home. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure are now available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

**If you would like to have your water tested for lead, free of charge, please call PWSA at 412.782.7554.**

# What Does PWSA Test for?

In general, the sources of all drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

## Contaminants that may be present in source or raw water include:

### Microbial contaminants

such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

### Inorganic contaminants

such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

### Pesticides and herbicides

which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.

In order to assure that tap water is safe to drink, the EPA and PADEP regulate the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and PADEP regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

PWSA tests for contaminants that may be present in the source water prior to treatment. Results of the tests enable us to adjust the treatment process in order to maximize the reduction and removal of contaminants. Tests are also conducted during the treatment process and on the finished water. Additional samples for testing are collected on a regular basis from our storage facilities, various points in the distribution network and customers' taps.

### Organic chemical contaminants

including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, can come from gas stations, urban stormwater runoff, and septic systems.

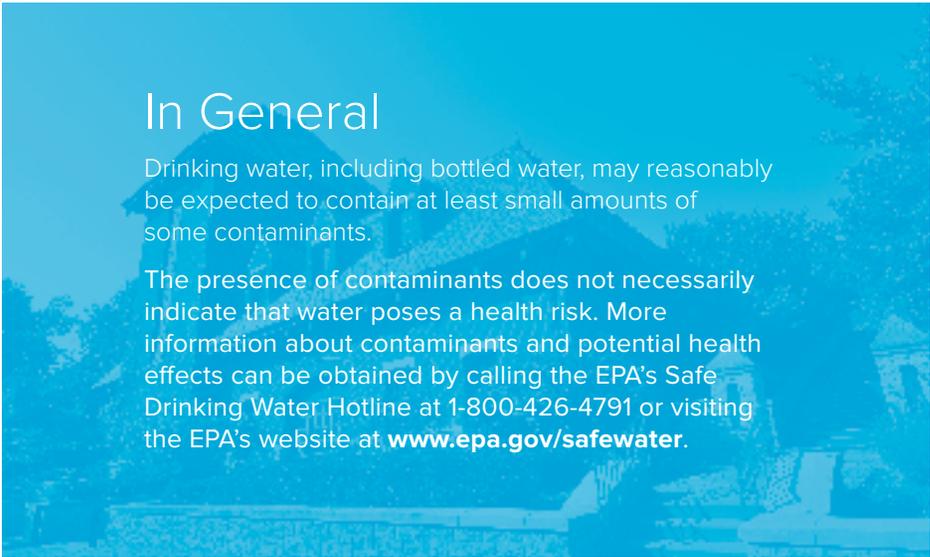
### Radioactive contaminants

which can be naturally-occurring or the result of oil and gas production and mining activities.

## In General

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting the EPA's website at [www.epa.gov/safewater](http://www.epa.gov/safewater).

 PWSA Microfiltration Plant located in Highland Park

## Unregulated Contaminant Monitoring Rule 3 (UCMR3)

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the following list. For additional information and data visit: <http://www.epa.gov/safewater/ucmr/ucmr3/index.html>, or call the Safe Drinking Water Hotline at 800.426.4791.

### The Pittsburgh Water and Sewer Authority detects for:

**Chromium** (total) = 0.55-0.87 ppb

**Chromium-6** = 0.46-0.59 ppb

**Strontium** = 110-150 ppb

**Chlorate** = 80-320 ppb

**TABLE 1: Test Results for Regulated Contaminants at Aspinwall Treatment Plant**

	CONTAMINANT (UNIT OF MEASUREMENT)	VIOLATION (Y / N)	LEVEL DETECTED	RANGE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS	Turbidity (a)	N	0.221 (b) 100%	N/A	N/A	TT=1 NTU for a single measurement TT= at least 95% of sample ≤0.3 NTU	Soil runoff
	Total Coliform	N	1	N/A	N/A	For systems that collect ≥ 40 samples/month 5% if samples are positive	Coliforms are bacteria that are naturally present in the environment and are used as indicators that other, potentially harmful bacteria may be present
	Total Chlorine Residual in Distribution System (ppm)	N	0.77	0.35 - 0.77	(c) 4	(d) 4	Water additive used to control microbes
	Free Chlorine Residual at Entry Point to Distribution System (ppm)	N	0.31	0.31 - 0.97	(c) 4	(d) 4	Water additive used to control microbes
DISINFECTION BYPRODUCTS	Total Trihalomethanes (ppb)	N	(e) 71	20.5 - 103	80	80	Byproduct of drinking water chlorination
	Total Haloacetic Acids (ppb)	N	(e) 21	7 - 34	60	60	Byproduct of drinking water disinfection
LEAD & COPPER	Lead (ppb) (f)	N	90 <sup>th</sup> Percentile = 14.8	5 sites above AL (50 sites sampled)	15	AL = 15	Corrosion of household Plumbing systems; erosion of natural deposits
	Copper (ppm) (f)	N	90 <sup>th</sup> Percentile = 0.143	No sites above	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
INORGANIC CHEMICAL CONTAMINANTS	Fluoride (ppm)	N	0.749	(g)	2	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	Nitrate (ppm)	N	1.29	0.43 - 1.29	10	10	Runoff from fertilizers; leaching from sewage; natural deposits
	Barium (ppm)	N	0.05	(g)	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
TOC REMOVAL	Total Organic Carbon (TOC) (% removal) (h)	N	No quarter out of compliance (i)	48 - 59%	M/A	TT = 35%	Naturally present in the environment



Highland #1 Reservoir located in Highland Park

**TABLE 2: Test Results for Regulated Contaminants at Highland Park Membrane Filtration Plant**

	CONTAMINANT (UNIT OF MEASUREMENT)	VIOLATION (Y / N)	LEVEL DETECTED	RANGE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS	Turbidity (a)	N	0.266 (b) 100%	N/A	N/A	TT=1 NTU for a single measurement TT= at least 95% of sample ≤0.3 NTU	Soil runoff
	Free Chlorine Residual at Entry Point to Distribution system (ppm)	N	0.24 (c)	(d) 0.24 - 0.77	4	4	Water additive used to control microbes
INORGANIC CHEMICAL CONTAMINANTS	Fluoride (ppm)	N	0.808	(e)	2	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	Nitrate (ppm)	N	1.2	0.39 - 1.2	10	10	Runoff from fertilizers; leaching from sewage; natural deposits
	Barium (ppm)	N	0.049	(e)	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural debris

## Footnotes for Table 1: Aspinwall Treatment Plant

- (a) Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
- (b) All turbidity samples met the turbidity limit of 0.3 NTU.
- (c) MRDLG.
- (d) MRDL.
- (e) Data based on Locational Running Annual Averages.
- (f) Data from June thru July 2013.
- (g) Only one sample required.
- (h) Adequate removal of TOC may be necessary to control unwanted formation of disinfection byproducts.
- (i) PWSA submitted late reporting for TOC during the 4th quarter sampling.

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## Footnotes for Table 2: Highland Park Membrane Filtration Plant

- (a) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
- (b) All turbidity samples met the turbidity limit of 0.3 NTU.
- (c) Lowest concentration of free chlorine detected.
- (d) Minimum allowable free chlorine residual at entry point to the distribution system.
- (e) Only one sample required.

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## Abbreviations & Definitions

### **(ND) Non-Detect**

Laboratory analysis indicates that the contaminant is not present at a detectable level.

### **(ppm or mg/L) Parts Per Million or Milligrams Per Liter**

One part per million corresponds to one minute in two years or a single penny in \$10,000.

### **(ppb or µg/L) Parts Per Billion or Micrograms Per Liter**

One part per billion corresponds to one minute in 2000 years or a single penny in \$10,000,000.

### **(NTU) Nephelometric Turbidity Unit**

Measurement of the clarity of water. Turbidity in excess of 5 NTU becomes just barely noticeable to the average person.

### **(AL) Action Level**

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

### **(TT) Treatment Technique**

A required process intended to reduce the level of a contaminant in drinking water.



📷 PWSA Stream Cleaning Event in Saw Mill Run

## What Do the Results Mean?

As you can see in Tables 1 & 2, our system had no water quality violations. We are proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected but are below the recommended MCL and therefore meet the regulatory requirements.

## Stay Informed

Update your contact information and stay informed. It's important that your contact information is up to date so that we can notify you about planned construction, water emergencies, extended water outages, and provide other safety information. PWSA encourages all customers to provide updated contact information by going to our website at [www.pgh2o.com](http://www.pgh2o.com) and selecting "Update Contact Info" or by calling PWSA Customer Service at 412.255.2423.

This information ensures that we are able to make direct contact in the event of an emergency.

# IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER FAILURE TO MONITOR

ESTE INFORME CONTIENE INFORMACIÓN IMPORTANTE ACERCA DE SU AGUA POTABLE. HAGA QUE ALGUIEN LO TRADUZCA PARA USTED, O HABLE CON ALGUIEN QUE LO ENTIENDA.

## MONITORING REQUIREMENTS NOT MET FOR HALOACETIC ACIDS

Our water system violated this drinking water standard over the past year. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 4th quarter monitoring we failed to ensure all 12 sites were collected and reported and therefore cannot be sure of the quality of our drinking water during that time.

### What should I do?

There is nothing you need to do at this time.

The table below lists the contaminant(s) we did not properly test for during the last year, how often we are supposed to sample for Haloacetic Acids and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

CONTAMINANT	REQUIRED SAMPLING FREQUENCY	NUMBER OF SAMPLES TAKEN	WHEN ALL SAMPLES SHOULD HAVE BEEN TAKEN	WHEN SAMPLES WERE OR WILL BE TAKEN
Haloacetic Acids	Quarterly	10	12	Following Quarter

### What happened? What was done?

Two 4th Quarter Haloacetic acids sample bottles broke in transit to the contract lab. PWSA was not notified by the contract lab of the broken bottles, and as a result did not recollect.

For more information, please contact **Gina Cyprych**, Acting Chief Water Quality Officer at 412-782-7553.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you PWSA drinking water consumer.